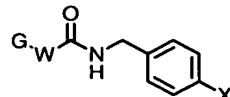


## WHAT IS CLAIMED IS:

1. A compound of formula I,



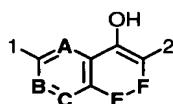
(I)

wherein,

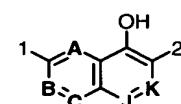
X is Cl, Br, F, CN or NO<sub>2</sub>;G is (a) C<sub>1-7</sub>alkyl which partially unsaturated and is substituted by hydroxy, or10 (b) C<sub>1-4</sub>alkyl substituted by NR<sup>1</sup>R<sup>2</sup> or 4-tetrahydropyran;R<sup>1</sup> is C<sub>2-7</sub>alkyl substituted by hydroxy, C<sub>1-4</sub>alkoxy, aryl, or heteroaryl;R<sup>2</sup> is hydrogen or C<sub>1-7</sub>alkyl;or R<sup>1</sup> and R<sup>2</sup> together with the nitrogen to which they are attached form morpholine which may be optionally substituted by aryl or C<sub>1-7</sub>alkyl;

15

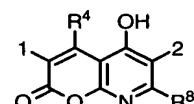
W is a heterocycle of formula W1, W3, or W4;



W1



W3



W4

20

A is CR<sup>4</sup> or nitrogen;B is CR<sup>5</sup> or nitrogen;C is CR<sup>6</sup> or nitrogen;

25 E and F are such that

(a) one is oxygen and the other is C(=O); or

(b) E is C(=O) and F is NR<sup>7</sup>;

J and K are such that

(a) J is nitrogen and K is CR<sup>8</sup>; or(b) J is CR<sup>6</sup> and K is nitrogen;

30 with the provisos that when W is of formula W3 and J is nitrogen, then at least one of A and B is nitrogen;

R<sup>4</sup> is H, halogen, or C<sub>1-4</sub>alkyl optionally substituted by one to three halogens;R<sup>5</sup> is (a) H,

- (b) halo,
- (c) OR<sup>12</sup>,
- (d) SR<sup>12</sup>,
- (e) C<sub>1-7</sub>alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>10</sup>R<sup>11</sup>, or halo,
- (f) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen, OR<sup>12</sup>, SR<sup>12</sup>, or NR<sup>10</sup>R<sup>11</sup>,
- (g) (C=O)R<sup>9</sup>,
- (h) S(O)<sub>m</sub>R<sup>9</sup>,
- (i) (C=O)OR<sup>2</sup>,
- (j) NHSO<sub>2</sub>R<sup>9</sup>,
- (k) nitro, or
- (l) cyano;

15 R<sup>6</sup> is

- (a) H,
- (b) halo,
- (c) aryl,
- (d) het,
- (e) OR<sup>12</sup>,
- 20 (f) SR<sup>12</sup>,
- (g) C<sub>1-7</sub>alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>10</sup>R<sup>11</sup>, aryl, halo, C<sub>3-8</sub>cycloalkyl optionally substituted by OR<sup>12</sup>, or het attached through a carbon atom,
- (h) NR<sup>10</sup>R<sup>11</sup>,
- (i) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen, OR<sup>12</sup>, SR<sup>12</sup>, or NR<sup>10</sup>R<sup>11</sup>,
- (j) (C=O)R<sup>9</sup>,

30

- (k) S(O)<sub>m</sub>R<sup>9</sup>,
- (l) (C=O)OR<sup>2</sup>,
- (m) NHSO<sub>2</sub>R<sup>9</sup>,
- (n) nitro, or

(o) cyano;

$R^7$  is (a) H,  
                  (b)  $C_{1-7}$ alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{10}R^{11}$ , or halo,

5 (c)  $C_{3-8}$ cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen,  $OR^{12}$ ,  $SR^{12}$ , or  $NR^{10}R^{11}$ ,

(d) aryl, or  
        (e) het;

10  $R^8$  is (a) H,  
                  (b)  $C_{1-7}$ alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{10}R^{11}$ , or halo,  
                  (c)  $OR^{12}$ , or  
                  (d)  $SR^{12}$ ;

15  $R^9$  is (a)  $C_{1-7}$ alkyl,  
                  (b)  $NR^{10}R^{11}$ ,  
                  (c) aryl, or  
                  (d) het, wherein said het is bound through a carbon atom;

$R^{10}$  and  $R^{11}$  are independently

20 (a) H,  
                  (b) aryl,  
                  (c)  $C_{1-7}$ alkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from  $CONR^2R^2$ ,  $CO_2R^2$ , het, aryl, cyano, or halo,  
                  (d)  $C_{2-7}$ alkyl which may be partially unsaturated and is substituted by one or more substituents selected from  $NR^2R^2$ ,  $OR^2$ , or  $SR^2$ ,

25 (e)  $C_{3-8}$ cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen,  $OR^2$ ,  $SR^2$ , or  $NR^2R^2$ , or  
                  (f)  $R^{10}$  and  $R^{11}$  together with the nitrogen to which they are attached form a het;

$R^{12}$  is (a) H,  
                  (b) aryl,

- (c) het
- (d) C<sub>1-7</sub>alkyl optionally substituted by aryl, het, or halogen,
- (e) C<sub>2-7</sub>alkyl substituted by OR<sup>2</sup>, SR<sup>2</sup>, or NR<sup>2</sup>R<sup>2</sup>, or
- 5 (f) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen, OR<sup>2</sup>, SR<sup>2</sup>, or NR<sup>2</sup>R<sup>2</sup>;

each m is independently 1 or 2;

10 aryl is a phenyl radical or an ortho-fused bicyclic carbocyclic radical wherein at least one ring is aromatic, and aryl maybe optionally substituted with one or more substituents selected from halo, OH, cyano, NR<sup>2</sup>R<sup>2</sup>, CO<sub>2</sub>R<sup>2</sup>, CF<sub>3</sub>, C<sub>1-6</sub>alkoxy, and C<sub>1-6</sub>alkyl which maybe further substituted by one to three SR<sup>2</sup>, NR<sup>2</sup>R<sup>2</sup>, OR<sup>2</sup>, or CO<sub>2</sub>R<sup>2</sup> groups;

15

het is a four- (4), five- (5), six- (6), or seven- (7) membered saturated or unsaturated heterocyclic ring having 1, 2, or 3 heteroatoms selected from oxygen, sulfur, or nitrogen, which is optionally fused to a benzene ring, or any bicyclic heterocycle group, and het may be optionally substituted with one or more substituents selected

20 from halo, OH, cyano, phenyl, CO<sub>2</sub>R<sup>2</sup>, CF<sub>3</sub>, C<sub>1-6</sub>alkoxy, oxo, oxime, and C<sub>1-6</sub>alkyl which may be further substituted by one to three SR<sup>2</sup>, NR<sup>2</sup>R<sup>2</sup>, OR<sup>2</sup>, or CO<sub>2</sub>R<sup>2</sup> groups;

halo or halogen is F, Cl, Br, I;

25 1 represents the point of attachment between W and G;

2 represents the point of attachment between W and the carbonyl group of Formula (I);

30 and a pharmaceutically acceptable salt thereof;

2. A compound of claim 1 wherein W is of the formula W1.

3. A compound of claim 2 wherein W is of the formula W1.1.
4. A compound of claim 2 wherein W is of the formula W1.2.
5. A compound of claim 2 wherein W is of the formula W1.3.
6. A compound of claim 2 wherein W is of the formula W1.4.
7. A compound of claim 2 wherein W is of the formula W1.5.
- 10 8. A compound of claim 2 wherein W is of the formula W1.6.
9. A compound of claim 2 wherein W is of the formula W1.7.
- 15 10. A compound of claim 2 wherein W is of the formula W1.8.
11. A compound of claim 2 wherein W is of the formula W1.9.
12. A compound of claim 2 wherein W is of the formula W1.10.
- 20 13. A compound of claim 2 wherein W is of the formula W1.11.
14. A compound of claim 2 wherein W is of the formula W1.12.
- 25 15. A compound of claim 2 wherein W is of the formula W1.13.
16. A compound of claim 2 wherein W is of the formula W1.14.
17. A compound of claim 2 wherein W is of the formula W1.15.
- 30 18. A compound of claim 2 wherein W is of the formula W1.16.
19. A compound of claim 2 wherein W is of the formula W1.17.

20. A compound of claim 2 wherein W is of the formula W1.18.

21. A compound of claim 2 wherein W is of the formula W1.19.

5

22. A compound of claim 2 wherein W is of the formula W1.20.

23. A compound of claim 2 wherein W is of the formula W1.21.

10 24. A compound of claim 2 wherein W is of the formula W1.22.

25. A compound of claim 2 wherein W is of the formula W1.23.

26. A compound of claim 1 wherein W is of the formula W3.

15

27. A compound of claim 26 wherein W is of the formula W3.1.

28. A compound of claim 26 wherein W is of the formula W3.2.

20 29. A compound of claim 26 wherein W is of the formula W3.3.

30. A compound of claim 26 wherein W is of the formula W3.4.

31. A compound of claim 26 wherein W is of the formula W3.5.

25

32. A compound of claim 26 wherein W is of the formula W3.6.

33. A compound of claim 26 wherein W is of the formula W3.7.

30 34. A compound of claim 26 wherein W is of the formula W3.8.

35. A compound of claim 26 wherein W is of the formula W3.9.

36. A compound of claim 26 wherein W is of the formula W3.10.
37. A compound of claim 26 wherein W is of the formula W3.11.
- 5 38. A compound of claim 26 wherein W is of the formula W3.12.
39. A compound of claim 26 wherein W is of the formula W3.13.
40. A compound of claim 26 wherein W is of the formula W3.14.
- 10 41. A compound of claim 1 wherein W is of the formula W4.
42. The compound according to claim 1, wherein X is Cl.
- 15 43. The compound according to claim 1 wherein G is 4-morpholinylmethyl.
44. The compound according to claim 1 wherein G is 3-hydroxy-1-propynyl.
45. The compound according to claim 1 wherein G is tetrahydro-2*H*-pyran-4-ylmethyl.
- 20 46. The compound according to claim 1 which is  
*N*-(4-chlorobenzyl)-4-hydroxy-6-(4-morpholinylmethyl)-2-oxo-2*H*-pyrano[2,3-*c*]pyridine-3-carboxamide;
- 25 *N*-(4-chlorobenzyl)-4-hydroxy-6-(3-hydroxy-1-propynyl)-1-oxo-1*H*-isochromene-3-carboxamide;  
  
*N*-(4-chlorobenzyl)-4-hydroxy-1-oxo-6-(tetrahydro-2*H*-pyran-4-ylmethyl)-1*H*-isochromene-3-carboxamide;
- 30 *N*-(4-chlorobenzyl)-4-hydroxy-6-(4-morpholinylmethyl)-1-oxo-1*H*-isochromene-3-carboxamide;

*N*-(4-chlorobenzyl)-5-hydroxy-3-(3-hydroxy-1-propynyl)-8-oxo-7,8-dihydro[1,7]-naphthyridine-6-carboxamide;

5    *N*-(4-chlorobenzyl)-4-hydroxy-6-(3-hydroxy-1-propynyl)-1-oxo-1,2-dihydro-3-isoquinolinecarboxamide;

*N*-(4-chlorobenzyl)-4-hydroxy-6-(4-morpholinylmethyl)-1-oxo-1,2-dihydro-3-isoquinolinecarboxamide;

10

*N*-(4-chlorobenzyl)-4-hydroxy-6-(3-hydroxy-1-propynyl)[1,7]naphthyridine-3-carboxamide;

15    *N*-(4-chlorobenzyl)-8-ethoxy-4-hydroxy-6-(3-hydroxy-1-propynyl)[1,7]-naphthyridine-3-carboxamide;

*N*-(4-chlorobenzyl)-4-hydroxy-6-(4-morpholinylmethyl)[1,7]naphthyridine-3-carboxamide;

20    *N*-(4-chlorobenzyl)-8-ethoxy-4-hydroxy-6-(4-morpholinylmethyl)[1,7]naphthyridine-3-carboxamide;

*N*-(4-chlorobenzyl)-4-hydroxy-6-(3-hydroxy-1-propynyl)[1,5]naphthyridine-3-carboxamide;

25

*N*-(4-chlorobenzyl)-4-hydroxy-6-(4-morpholinylmethyl)[1,5]naphthyridine-3-carboxamide;

30    *N*-(4-chlorobenzyl)-4-hydroxy-6-(tetrahydro-2*H*-pyran-4-ylmethyl)[1,5]-naphthyridine-3-carboxamide;

*N*-(4-chlorobenzyl)-8-hydroxy-2-(3-hydroxy-1-propynyl)pyrido[3,2-*d*]pyrimidine-7-carboxamide;

*N*-(4-chlorobenzyl)-8-hydroxy-2-(4-morpholinylmethyl)pyrido[3,2-*d*]pyrimidine-7-carboxamide;

5 *N*-(4-chlorobenzyl)-5-hydroxy-3-(4-morpholinylmethyl)[1,7]naphthyridine-6-carboxamide;

*N*-(4-chlorobenzyl)-5-hydroxy-3-(3-hydroxy-1-propynyl)[1,7]naphthyridine-6-carboxamide;

10

*N*-(4-chlorobenzyl)-5-hydroxy-3-(tetrahydro-2*H*-pyran-4-ylmethyl)[1,7]-naphthyridine-6-carboxamide;

*N*-(4-chlorobenzyl)-4-hydroxy-6-(4-morpholinylmethyl)-3-isoquinolinecarboxamide;

15

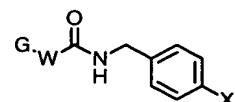
*N*-(4-chlorobenzyl)-4-hydroxy-6-(3-hydroxy-1-propynyl)-3-isoquinolinecarboxamide;

*N*-(4-chlorobenzyl)-4-hydroxy-6-(tetrahydro-2*H*-pyran-4-ylmethyl)-3-isoquinoline-carboxamide; or

20 a pharmaceutically acceptable salt thereof.

47. A pharmaceutical composition comprising a compound of claim 1 and a pharmaceutically acceptable carrier.

25 48. A method of treating or preventing a viral infection, comprising administering to  
a mammal in need of such treatment, a compound of formula (I),



30

(I)

wherein,

X is Cl, Br, F, CN or NO<sub>2</sub>;

G is (a)  $C_{3-7}$ alkyl which is partially unsaturated and is substituted by hydroxy,

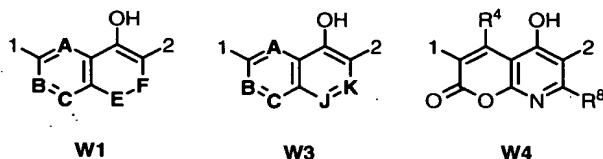
(b) C<sub>1-7</sub>alkyl which is fully saturated and is substituted by hydroxy, or  
 (c) C<sub>1-4</sub>alkyl substituted by NR<sup>1</sup>R<sup>2</sup> or 4-tetrahydropyran;

R<sup>1</sup> is C<sub>2-7</sub>alkyl substituted by hydroxy, C<sub>1-4</sub>alkoxy, aryl, or heteroaryl;  
 R<sup>2</sup> is hydrogen or C<sub>1-7</sub>alkyl;

5 or R<sup>1</sup> and R<sup>2</sup> together with the nitrogen to which they are attached form morpholine which may be optionally substituted by aryl or C<sub>1-7</sub>alkyl;

W is a heterocycle of formula W1, W3, or W4;

10



A is CR<sup>4</sup> or nitrogen;

15 B is CR<sup>5</sup> or nitrogen;

C is CR<sup>6</sup> or nitrogen;

E and F are such that

20 J and K are such that

- (a) one is oxygen and the other is C(=O); or
- (b) E is C(=O) and F is NR<sup>7</sup>;
- (a) J is nitrogen and K is CR<sup>8</sup>; or
- (b) J is CR<sup>6</sup> and K is nitrogen;

with the provisos that when W is of formula W3 and J is nitrogen, then at least one of A and B is nitrogen;

R<sup>4</sup> is H, halogen, or C<sub>1-4</sub>alkyl optionally substituted by one to three halogens;

25 R<sup>5</sup> is

- (a) H,
- (b) halo,
- (c) OR<sup>12</sup>,
- (d) SR<sup>12</sup>,
- (e) C<sub>1-7</sub>alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>10</sup>R<sup>11</sup>, or halo,
- (f) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen, OR<sup>12</sup>, SR<sup>12</sup>, or NR<sup>10</sup>R<sup>11</sup>,

- (g)  $(C=O)R^9$ ,
- (h)  $S(O)_mR^9$ ,
- (i)  $(C=O)OR^2$ ,
- (j)  $NHSO_2R^9$ ,

5                   (k) nitro, or  
                      (l) cyano;

$R^6$  is (a) H,

- (b) halo,
- (c) aryl,

10                  (d) het,  
                      (e)  $OR^{12}$ ,

(f)  $SR^{12}$ ,

15                  (g) C<sub>1-7</sub>alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{10}R^{11}$ , aryl, halo, C<sub>3-8</sub>cycloalkyl optionally substituted by  $OR^{12}$ , or het attached through a carbon atom,

20                  (h)  $NR^{10}R^{11}$ ,  
                      (i) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen,  $OR^{12}$ ,  $SR^{12}$ , or  $NR^{10}R^{11}$ ,

(j)  $(C=O)R^9$ ,

(k)  $S(O)_mR^9$ ,

(l)  $(C=O)OR^2$ ,

(m)  $NHSO_2R^9$ ,

25                  (n) nitro, or  
                      (o) cyano;

$R^7$  is (a) H,

30                  (b) C<sub>1-7</sub>alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{10}R^{11}$ , or halo,

(c) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen,  $OR^{12}$ ,  $SR^{12}$ , or  $NR^{10}R^{11}$ ,

(d) aryl, or

(e) het;

$R^8$  is (a) H,  
              (b) C<sub>1-7</sub>alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>10</sup>R<sup>11</sup>, or halo,

5           (c) OR<sup>12</sup>, or  
              (d) SR<sup>12</sup>;

$R^9$  is (a) C<sub>1-7</sub>alkyl,  
              (b) NR<sup>10</sup>R<sup>11</sup>,  
              (c) aryl, or  
              (d) het, wherein said het is bound through a carbon atom;

$R^{10}$  and  $R^{11}$  are independently  
              (a) H,  
              (b) aryl,  
              (c) C<sub>1-7</sub>alkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from CONR<sup>2</sup>R<sup>2</sup>, CO<sub>2</sub>R<sup>2</sup>, het, aryl, cyano, or halo,

15           (d) C<sub>2-7</sub>alkyl which may be partially unsaturated and is substituted by one or more substituents selected from NR<sup>2</sup>R<sup>2</sup>, OR<sup>2</sup>, or SR<sup>2</sup>,  
              (e) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen, OR<sup>2</sup>, SR<sup>2</sup>, or NR<sup>2</sup>R<sup>2</sup>, or  
              (f) R<sup>10</sup> and R<sup>11</sup> together with the nitrogen to which they are attached form a het;

$R^{12}$  is (a) H,  
              (b) aryl,  
              (c) het  
              (d) C<sub>1-7</sub>alkyl optionally substituted by aryl, het, or halogen,  
              (e) C<sub>2-7</sub>alkyl substituted by OR<sup>2</sup>, SR<sup>2</sup>, or NR<sup>2</sup>R<sup>2</sup>, or  
              (f) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen, OR<sup>2</sup>, SR<sup>2</sup>, or NR<sup>2</sup>R<sup>2</sup>;

each m is independently 1 or 2;

aryl is a phenyl radical or an ortho-fused bicyclic carbocyclic radical wherein at least one ring is aromatic, and aryl maybe optionally substituted with one or more substituents selected from halo, OH, cyano,  $\text{NR}^2\text{R}^2$ ,  $\text{CO}_2\text{R}^2$ ,  $\text{CF}_3$ ,  $\text{C}_{1-6}\text{alkoxy}$ , and  $\text{C}_{1-6}$  alkyl which maybe further substituted by one to three  $\text{SR}^2$ ,  $\text{NR}^2\text{R}^2$ ,  $\text{OR}^2$ , or  $\text{CO}_2\text{R}^2$  groups;

het is a four- (4), five- (5), six- (6), or seven- (7) membered saturated or unsaturated heterocyclic ring having 1, 2, or 3 heteroatoms selected from oxygen, sulfur, or nitrogen, which is optionally fused to a benzene ring, or any bicyclic heterocycle group, and het may be optionally substituted with one or more substituents selected from halo, OH, cyano, phenyl,  $\text{CO}_2\text{R}^2$ ,  $\text{CF}_3$ ,  $\text{C}_{1-6}\text{alkoxy}$ , oxo, oxime, and  $\text{C}_{1-6}$  alkyl which may be further substituted by one to three  $\text{SR}^2$ ,  $\text{NR}^2\text{R}^2$ ,  $\text{OR}^2$ , or  $\text{CO}_2\text{R}^2$  groups;

15 halo or halogen is F, Cl, Br, I;

1 represents the point of attachment between W and G;

20 2 represents the point of attachment between W and the carbonyl group of Formula (I);

and a pharmaceutically acceptable salt thereof;

25 49. The method according to claim 48 wherein said viral infection is a herpes virus infection.

50. The method according to claim 48 wherein said mammal is a human.

30 51. The method according to claim 48 wherein said mammal is a food animal or companion animal.

52. The method according to claim 48 wherein the infection is herpes simplex virus type 1 or 2, human herpes virus type, 6, 7, or 8, varicella zoster virus, human cytomegalovirus, or Epstein-Barr virus.

5 53. The method according to claim 48 wherein the infection is herpes simplex virus type 1 or 2, human herpes virus type 8, varicella zoster virus, human cytomegalovirus, or Epstein-Barr virus.

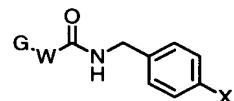
10 54. The method according to claim 48 wherein the amount administered is from about 0.1 to about 300 mg/kg of body weight.

55. The method according to claim 48 wherein the amount administered is from about 1 to about 30 mg/kg of body weight.

15 56. The method according to claim 48 wherein the compound is administered parenterally, topically, intravaginally, orally, or rectally.

57. A method for inhibiting a viral DNA polymerase, comprising contacting the polymerase with an effective inhibitory amount of a compound of the formula (I)

20



(I)

wherein,

25 X is Cl, Br, F, CN or NO<sub>2</sub>;

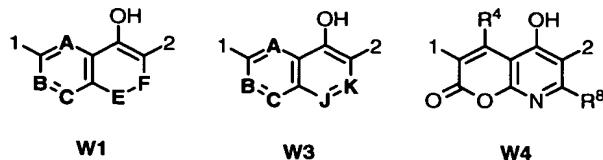
G is (a) C<sub>3-7</sub>alkyl which is partially unsaturated and is substituted by hydroxy, (b) C<sub>1-7</sub>alkyl which is fully saturated and is substituted by hydroxy, or (c) C<sub>1-4</sub>alkyl substituted by NR<sup>1</sup>R<sup>2</sup> or 4-tetrahydropyran;

R<sup>1</sup> is C<sub>2-7</sub>alkyl substituted by hydroxy, C<sub>1-4</sub>alkoxy, aryl, or heteroaryl;

30 R<sup>2</sup> is hydrogen or C<sub>1-7</sub>alkyl;

or R<sup>1</sup> and R<sup>2</sup> together with the nitrogen to which they are attached form morpholine which may be optionally substituted by aryl or C<sub>1-7</sub>alkyl;

W is a heterocycle of formula W1, W3, or W4;



5

A is CR<sup>4</sup> or nitrogen;

B is CR<sup>5</sup> or nitrogen;

C is CR<sup>6</sup> or nitrogen;

10 E and F are such that  
     (a) one is oxygen and the other is C(=O); or  
     (b) E is C(=O) and F is NR<sup>7</sup>;

J and K are such that  
     (a) J is nitrogen and K is CR<sup>8</sup>; or  
     (b) J is CR<sup>6</sup> and K is nitrogen;

15 with the provisos that when W is of formula W3 and J is nitrogen, then at least one of A and B is nitrogen;  
     R<sup>4</sup> is H, halogen, or C<sub>1-4</sub>alkyl optionally substituted by one to three halogens;  
     R<sup>5</sup> is   (a) H,  
              (b) halo,  
              (c) OR<sup>12</sup>,  
              (d) SR<sup>12</sup>,  
              (e) C<sub>1-7</sub>alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>10</sup>R<sup>11</sup>, or halo,  
              (f) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen, OR<sup>12</sup>, SR<sup>12</sup>, or NR<sup>10</sup>R<sup>11</sup>,  
              (g) (C=O)R<sup>9</sup>,  
              (h) S(O)<sub>m</sub>R<sup>9</sup>,  
              (i) (C=O)OR<sup>2</sup>,  
              (j) NHSO<sub>2</sub>R<sup>9</sup>,  
              (k) nitro, or  
              (l) cyano;

20 R<sup>6</sup> is   (a) H,

25

30

- (b) halo,
- (c) aryl,
- (d) het,
- (e) OR<sup>12</sup>,
- 5 (f) SR<sup>12</sup>,
- (g) C<sub>1-7</sub>alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>10</sup>R<sup>11</sup>, aryl, halo, C<sub>3-8</sub>cycloalkyl optionally substituted by OR<sup>12</sup>, or het attached through a carbon atom,
- 10 (h) NR<sup>10</sup>R<sup>11</sup>,
- (i) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen, OR<sup>12</sup>, SR<sup>12</sup>, or NR<sup>10</sup>R<sup>11</sup>,
- (j) (C=O)R<sup>9</sup>,
- 15 (k) S(O)<sub>m</sub>R<sup>9</sup>,
- (l) (C=O)OR<sup>2</sup>,
- (m) NHSO<sub>2</sub>R<sup>9</sup>,
- (n) nitro, or
- (o) cyano;

20 R<sup>7</sup> is (a) H,

- (b) C<sub>1-7</sub>alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>10</sup>R<sup>11</sup>, or halo,
- (c) C<sub>3-8</sub>cycloalkyl which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen, OR<sup>12</sup>, SR<sup>12</sup>, or NR<sup>10</sup>R<sup>11</sup>,
- 25 (d) aryl, or
- (e) het;

R<sup>8</sup> is (a) H,

- (b) C<sub>1-7</sub>alkyl which may be partially unsaturated and optionally substituted by one or more substituents selected from OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>10</sup>R<sup>11</sup>, or halo,
- (c) OR<sup>12</sup>, or
- (d) SR<sup>12</sup>;

30 R<sup>9</sup> is (a) C<sub>1-7</sub>alkyl,

- (b)  $\text{NR}^{10}\text{R}^{11}$ ,
- (c) aryl, or
- (d) het, wherein said het is bound through a carbon atom;

$\text{R}^{10}$  and  $\text{R}^{11}$  are independently

- 5       (a) H,
- (b) aryl,
- (c)  $\text{C}_{1-7}\text{alkyl}$  which may be partially unsaturated and is optionally substituted by one or more substituents selected from  $\text{CONR}^2\text{R}^2$ ,  $\text{CO}_2\text{R}^2$ , het, aryl, cyano, or halo,
- 10     (d)  $\text{C}_{2-7}\text{alkyl}$  which may be partially unsaturated and is substituted by one or more substituents selected from  $\text{NR}^2\text{R}^2$ ,  $\text{OR}^2$ , or  $\text{SR}^2$ ,
- (e)  $\text{C}_{3-8}\text{cycloalkyl}$  which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen,  $\text{OR}^2$ ,  $\text{SR}^2$ , or  $\text{NR}^2\text{R}^2$ , or
- 15     (f)  $\text{R}^{10}$  and  $\text{R}^{11}$  together with the nitrogen to which they are attached form a het;

$\text{R}^{12}$  is

- (a) H,
- (b) aryl,
- (c) het

- 20     (d)  $\text{C}_{1-7}\text{alkyl}$  optionally substituted by aryl, het, or halogen,
- (e)  $\text{C}_{2-7}\text{alkyl}$  substituted by  $\text{OR}^2$ ,  $\text{SR}^2$ , or  $\text{NR}^2\text{R}^2$ , or
- (f)  $\text{C}_{3-8}\text{cycloalkyl}$  which may be partially unsaturated and is optionally substituted by one or more substituents selected from halogen,  $\text{OR}^2$ ,  $\text{SR}^2$ , or  $\text{NR}^2\text{R}^2$ ;

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each m is independently 1 or 2;

aryl is a phenyl radical or an ortho-fused bicyclic carbocyclic radical wherein at least one ring is aromatic, and aryl maybe optionally substituted with one or more substituents selected from halo, OH, cyano,  $\text{NR}^2\text{R}^2$ ,  $\text{CO}_2\text{R}^2$ ,  $\text{CF}_3$ ,  $\text{C}_{1-6}\text{alkoxy}$ , and  $\text{C}_{1-6}$  alkyl which maybe further substituted by one to three  $\text{SR}^2$ ,  $\text{NR}^2\text{R}^2$ ,  $\text{OR}^2$ , or  $\text{CO}_2\text{R}^2$  groups;

het is a four- (4), five- (5), six- (6), or seven- (7) membered saturated or unsaturated heterocyclic ring having 1, 2, or 3 heteroatoms selected from oxygen, sulfur, or nitrogen, which is optionally fused to a benzene ring, or any bicyclic heterocycle group, and het may be optionally substituted with one or more substituents selected  
5 from halo, OH, cyano, phenyl,  $\text{CO}_2\text{R}^2$ ,  $\text{CF}_3$ ,  $\text{C}_{1-6}\text{alkoxy}$ , oxo, oxime, and  $\text{C}_{1-6}$  alkyl which may be further substituted by one to three  $\text{SR}^2$ ,  $\text{NR}^2\text{R}^2$ ,  $\text{OR}^2$ , or  $\text{CO}_2\text{R}^2$  groups;

halo or halogen is F, Cl, Br, I;

10 1 represents the point of attachment between W and G;

2 represents the point of attachment between W and the carbonyl group of Formula (I);

15 and a pharmaceutically acceptable salt thereof;

58. The method of claim 57 wherein the polymerase and the compound are contacted *in vitro*.

20 59. The method of claim 57 wherein the polymerase and the compound are contacted *in vivo*.